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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,239

05/12/2006

Koichiro Tanaka

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1310

31780

7590

08/19/2008

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EXAMINER

SMITH, BRADLEY

ART UNIT

PAPER NUMBER

2894

MAIL DATE

DELIVERY MODE

08/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,239	Applicant(s) TANAKA ET AL.	
	Examiner Bradley K. Smith	Art Unit 2894	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/12/06, 7/11/08</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanaka (US 2004/0169023). Regarding claims 1 and 2, Tanaka disclose forming a gate insulating film over a semiconductor layer of a SOI substrate; forming a gate electrode over the gate insulating film; selectively injecting impurities into the semiconductor layer of the SOI substrate to form an impurity region; processing a laser beam having a fundamental wave into a long beam on a surface of the impurity region; and moving the surface of the impurity region relatively to the long beam to scan the laser beam to activate the impurity region [0062-0069]. Regarding claim 3, Tanaka disclose the impurity region is a source drain region [0108]. Regarding claim 4, Tanaka disclose the impurity region is an extension of the transistor [0108]. Regarding claim 6, Tanaka disclose an Nd YLF laser.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the

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inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Semiconductor Energy Lab (JP 2001-308344) in view of Yamazaki (US 20030085720). Semiconductor Energy Lab disclose forming a gate insulating film over a semiconductor layer of a SOI substrate; forming a gate electrode over the gate insulating film; selectively injecting impurities into the semiconductor layer of the SOI substrate to form an impurity region; processing a laser beam having a fundamental wave into a long beam on a surface of the impurity region. However Semiconductor Energy Lab fails to disclose the moving the surface of the impurity region relative to long beam to scan the laser beam to activate the impurity region. However Yamazaki disclose the moving the surface of the impurity region relative to long beam to scan the laser beam for annealing a semiconductor substrate[0065] (see figure 1, 7A, 11A-12C). Regarding claim 3, Semiconductor Energy Lab disclose the impurity region is a source drain region [0108]. Regarding claim 4, Semiconductor Energy Lab disclose the impurity region is an extension of the transistor [0108]. Regarding claim 6, Semiconductor Energy Lab disclose an Nd:YLF laser. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Semiconductor

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Energy Lab and Yamazaki because moving the surface of the impurity region would be well within the skill in the art and would have yielded predictable results such as being able to move the substrate underneath the laser.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Semiconductor Energy Lab (JP 2001-308344) in view of Yamazaki (US 20030085720) as applied to claims 1 and 2 above. Semiconductor Energy Lab and Yamazaki disclose the claimed invention except for the fundamental wave is operated with a pulse width of 1 femtoseconds or more and 10 picoseconds or less. It would have been obvious to one of ordinary skill in the art at the time the invention was made to operate the fundamental wave with a pulse width of 1 femtoseconds or more and 10 picoseconds or less, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In *Re Aller*, 105 USPQ 233.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Semiconductor Energy Lab (JP 2001-308344) in view of Yamazaki (US 20030085720) as applied to claims 1 and 2 above. Semiconductor Energy Lab and Yamazaki disclose the claimed invention except for the laser beam is a pulsed laser light with a repetition rate of 10MHz or more. It would have been obvious to one of ordinary skill in the art at the time the invention was made to pulse the laser light with a repetition rate of 10MHz or more, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In *Re Aller*, 105 USPQ 233.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley K. Smith whose telephone number is 571-272-1884. The examiner can normally be reached on 10-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on 571-272-1236. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bradley K Smith/
Primary Examiner, Art Unit 2894

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